

Claims

1. A method of protecting objects against theft, in which at least one strapping means is looped around an object to be secured, with overlapping portions of the strapping means being joined together, **characterized by the step of feeding at least one electronically detectable security element (21, 27, 43, 50, 55) to the strapping means (10, 46, 52) in such manner that the security element (21, 27, 43, 50, 55) is enclosed between the overlapping portions (48, 49, 53, 54).**

2. The method according to claim 1, characterized by the steps of feeding the security element (27, 43, 50, 55) to the strapping means (10, 46, 52) prior to the strapping operation and applying it to one of the overlapping portions (48, 49, 53, 54).

3. The method according to claim 1, characterized by the steps of feeding the security element (21, 43, 50, 55) to the strapping means (10, 46, 52) during the strapping operation and positioning it intermediate the overlapping portions (48, 49, 53, 54).

4. The method according to claim 3, characterized by the steps of arranging as strapping means (10, 46, 52) at least one loop (17) made from a weldable, band-shaped strapping material in encircling relationship around the object (2, 45), with the overlapping portions (48, 49, 53, 54) of the band-shaped strapping material forming a welding zone, and introducing a security element (21, 27, 43, 50, 55) coated at least in part with a melttable material between the overlapping portions (48, 49, 50, 55) of the band-shaped strapping material in the welding zone, and subsequently welding the strapping material and the coated security element (21, 27, 43, 50, 55) to one another in the welding zone, thereby sealing the loop (17).

5. The method according to claim 4, characterized by the step of employing a friction welding or ultrasonic welding process for the welding operation.

6. The method according to any one of the claims 1 to 5, characterized by the steps of feeding the strapping means (10, 46, 52) by means of a conveying device (15) to a band guide (3, 36) which surrounds the object (2, 45) at least in part and routing it through said guide, and/or drawing the strapping means (10, 46, 52)

off a supply reel (9, 38) and severing the loop (17) from the remaining supply of strapping material prior to or subsequent to the joining operation.

7. The method according to any one of the claims 1 to 6, characterized by the steps of peeling the security elements (21, 27, 43, 50, 55) from a supply reel (23, 30) onto which they are wound in the form of a continuous strip and feeding them to the strapping means (10, 46, 52), and severing a single security element (21, 27, 43, 50, 55) from the continuous strip prior to or subsequent to its integration in the strapping means (10, 46, 52).

8. The method according to any one of the claims 1 to 6, characterized by the steps of presenting the security elements (43, 50, 55) as cut-to-size strip elements and feeding them to the strapping means (10, 46, 52) one at a time.

9. The method according to any one of the claims 1 to 8, characterized by the steps of strapping the object (2, 45) to be secured with two strapping means (10, 46, 52) and affixing in the process at least two security elements (21, 27, 43, 50, 55) to the object (2, 45) at an angle of 90 degrees relative to each other.

10. An apparatus (1, 25) for the protection of objects against theft by encircling them with at least one strapping means, with a sealing device for sealing overlapping portions of a strapping means encircling the object to be secured, **characterized by** a device for applying at least one electronically detectable security element (21, 27, 43, 50, 55) to the strapping means (10, 46, 52) prior to it being sealed.

11. The apparatus according to claim 10, characterized in that the applicator includes a dispensing device (26) adapted to apply a security element (27, 50, 55) to one of the overlapping portions (48, 49, 53, 54) for integration into the strapping means (10, 46, 52).

12. The apparatus according to claim 10, characterized in that the applicator includes a positioning device (20) with which a security element (21, 50, 55) needing to be integrated in the strapping means (10, 46, 52) is adapted to be positioned intermediate the overlapping portions (48, 49, 53, 54).

13. The apparatus according to any one of the claims 10 to 12, characterized in that it includes a conveying device (15) by means of which a weld-

able, band-shaped strapping material as strapping means (10, 46, 52) is adapted to be fed to a band guide (3) arranged so as to surround the object (2, 45) at least in part.

14. The apparatus according to any one of the claims 10 to 13, characterized in that the security elements (21, 27, 43, 50, 55) are arranged singly and cut to size in a magazine or wound on a supply reel (23, 30) as a continuous strip.

15. The apparatus according to any one of the claims 10 to 14, characterized in that provision is made for a feed device for picking up the security elements (21, 27, 43, 50, 55) and feeding said security elements (21, 27, 43, 50, 55) to the applicator.

16. The apparatus according to any one of the claims 10 to 15, characterized in that a severing device, preferably a cutter, is provided which cuts the security elements (21, 27, 43, 50, 55) to a size corresponding approximately to the length of the overlapping portions (48, 49, 53, 54).

17. The apparatus according to any one of the claims 10 to 16, characterized in that the sealing device (18, 42) is a friction welding device or an ultrasonic welding device, and the security element (21, 27, 43, 50, 55) is coated with a melttable material at least in part.

18. The apparatus according to any one of the claims 10 to 17, characterized in that the security elements (21, 27, 43, 50, 55) are of a strip-shaped configuration and/or arranged on a carrier web (22, 28).

19. The apparatus according to any one of the claims 10 to 18, characterized in that the applicator comprises at least an idler roll and a dispensing lip (31).

20. The apparatus according to any one of the claims 10 to 19, characterized in that the strapping means (10, 46, 52) is wound on a supply reel (9, 38) as a band supply and a severing device is provided which severs the strapping means (10, 46, 52) from the band supply after its overlapping portions have been joined together.